Installing Dell OpenManage Essentials

This technical white paper describes how to install OpenManage Essentials.

OME Engineering Team

This document is for informational purposes only and may contain typographical errors and technical inaccuracies. The content is provided as is, without express or implied warranties of any kind.

© 2013 Dell Inc. All rights reserved. Dell and its affiliates cannot be responsible for errors or omissions in typography or photography. Dell, the Dell logo, and PowerEdge are trademarks of Dell Inc. Intel and Xeon are registered trademarks of Intel Corporation in the U.S. and other countries. Microsoft, Windows, and Windows Server are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell disclaims proprietary interest in the marks and names of others.

July 2013| Rev 1.0

Contents

Executive summary 5
What is OpenManage Essentials? 5
Minimum installation requirements 5
Installation procedures 7
Installation flowchart 7
Installing Dell OpenManage Essentials 8
Critical prerequisites 10
Automatically installing all critical prerequisites 12
SQL Server instance selection 12
Typical installation 13
Custom installation 13
Remote database installation 14
OpenManage Essentials supporting utilities 16
Troubleshooting Tool 16
Dell OpenManage Essentials MIBImport Utility 16
Upgrade workflow flowchart 17
Data Migration during Upgrade 18
Uninstalling 20
Repair (program maintenance) 21
Learn more 21
Conclusion 21

Tables

Table 1. Minimum recommended hardware 5
Table 2. Minimum software and network requirements 6
Table 3. Minimum login roles for Microsoft SQL Server 6
Table 4. Login roles 7
Table 5. Local Database Instances Supported 12
Table 6. Default port settings 13
Table 7. Migration on Local database 18

Figures

Figure 1. Fresh installation 8
Figure 2. Dell OpenManage Install Available options dialog box. 9

Figure 3. Dell OpenManage Essentials prerequisites. 10
Figure 4. SQL Server Warning prerequisite 11
Figure 5. Port settings 13
Figure 6. Database server window from the InstallShield Wizard..... 14
Figure 7. Browsing a remote database. 15
Figure 8. Upgrade workflow..... 17
Figure 9. Ready to Install the Program screen. 19
Figure 10. Custom settings (only displayed during the upgrade process). 19
Figure 11. Uninstalling OpenManage Essentials. 20
Figure 12. Retain Database Option while Uninstalling 20
Figure 13. Program maintenance. 21

.

Executive summary

This document describes the Dell OpenManage Essentials (OME) installation prerequisites, installation flow and steps, and information you can make use of during the OME installation or upgrade from previous versions.

This document includes the following information:

- Minimum hardware and software requirements
- Single-click prerequisites installation
- Remote database installation
- Program maintenance

What is OpenManage Essentials?

Dell OpenManage Essentials is a lightweight, Web-based, one-to many systems management solution that provides a comprehensive view of Dell systems, devices, and components in an enterprise network. To know more refer: www.delltechcenter.com/ome

Minimum Installation Requirements

Installing OpenManage Essentials requires the minimum software, network, and system requirements detailed in the tables below. You must have system administrator privileges to perform the installation.

Table 1. Minimum recommended hardware

Minimum recommended hardware	Large deployments	Medium deployments	Small deployments
Number of devices	Up to 2000	Up to 500	Up to 100
Type of system	Physical machines / virtual Machines	Physical machines / virtual Machines	Physical machines / virtual Machines
RAM	8 GB	6 GB	4 GB
Processors	8 cores total	4 cores total	2 cores total
Database	SQL standard	SQL Express	SQL Express
Database location	Remote	Local	Local
Hard drive	10 GB	6 GB	6 GB

Table 2. Minimum software and network requirements

Particulars	Minimum requirements
Operating systems	Microsoft Windows Server 2008 SP2 Standard and Enterprise Editions (x86 and x64) Microsoft Windows Server 2008 R2 SP1 Standard and Enterprise Editions Microsoft Windows Server 2012 Standard and Datacenter Editions
Network	100 Mbps or higher
Web browser	Microsoft Internet Explorer 8, 9, and 10 Mozilla Firefox 11 and 12 Google Chrome 26 and 27
Database	Standard\Enterprise Editions: Microsoft SQL Server 2008 and above Express Editions: SQLEXPRESSOME instance with Microsoft SQL Server 2008 and above
User interface	Microsoft Silverlight version 5.1.20125.0
Microsoft .NET Framework	4.5
Microsoft Visual C++ Runtime	Runtime 2010 version 10.0.40219

Note: If Windows is not having the above mentioned Service Packs installed, installation of Essentials in any kind including Typical, Custom and upgrade from previous version will be blocked. You should adhere to the above mentioned Service Packs of Windows for installing\upgrading Essentials.

Table 3. Minimum login roles for Microsoft SQL Server

Use cases	Minimum login roles for SQL Server
Fresh OME installation: select the *Typical installation* option.	*sysadmin* access on the installed instance
Fresh OME installation: select the *Custom installation* option. An *empty* OpenManage Essentials database is already present (locally or remotely) on the mentioned database server.	*db_owner* access on the OpenManage Essentials database.
Fresh OME installation: select the *Custom installation* option, and no OME database found.	*dbcreator* access on the server.
Upgrading OME from v1.0.1 or v1.1 to v1.2 and an OpenManage Essentials database is present (locally or remotely).	*db_owner* access on the OpenManage Essentials database.

Note: If you select the *Custom* install option and do not enter any credentials (irrespective of whether the Windows or SQL Authentication method is selected), then the installation is considered as a *"Typical"* installation and "*sysadmin"* rights will be checked for the mentioned database server and database instance.

Table 4. Login roles

Role	Why does OME require this role during installation?
sysadmin	During a Typical install, OME requires this role to create a new SQL Server Login *OMEService*. This login is granted with *dbcreator* permission.
dbcreator	During a Custom install, OME requires this role to create the OMEssentials database on the mentioned database server.
db_owner	OME requires this role when it detects an existing OMEssentials database as present on the system. This role helps OME to create/update the OME database objects on this existing database.

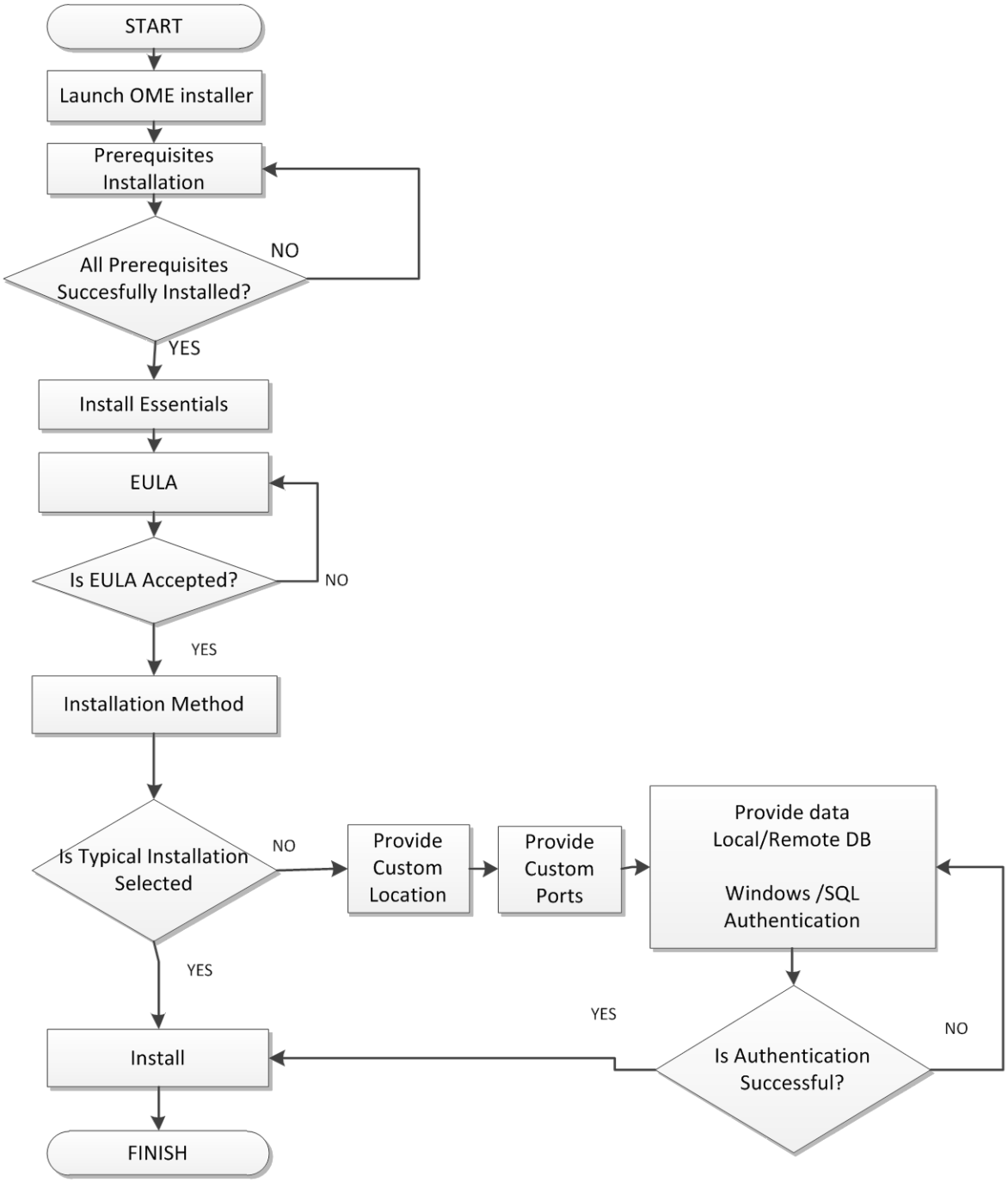
Installation Procedures

Use the following install procedures for installing OpenManage Essentials.

Installation Flowchart

The Figure 1 shows the brief OME installation steps with respect to a fresh installation.

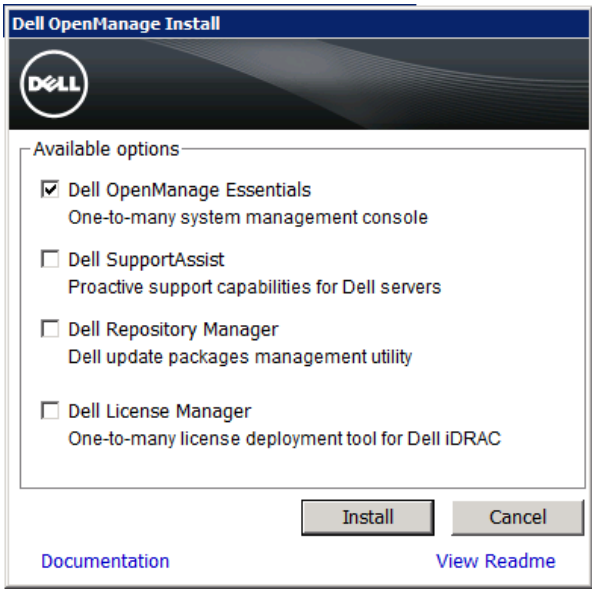
Figure 1. Fresh installation



Installing Dell OpenManage Essentials

1. Download the OpenManage Essentials package from https://delltechcenter.com/ome, and extract the files to a local drive.
2. The self-extracting zip automatically launches the Autorun.exe window or you can manually launch the Autorun.exe.

Figure 2. Dell OpenManage Install Available options dialog box.

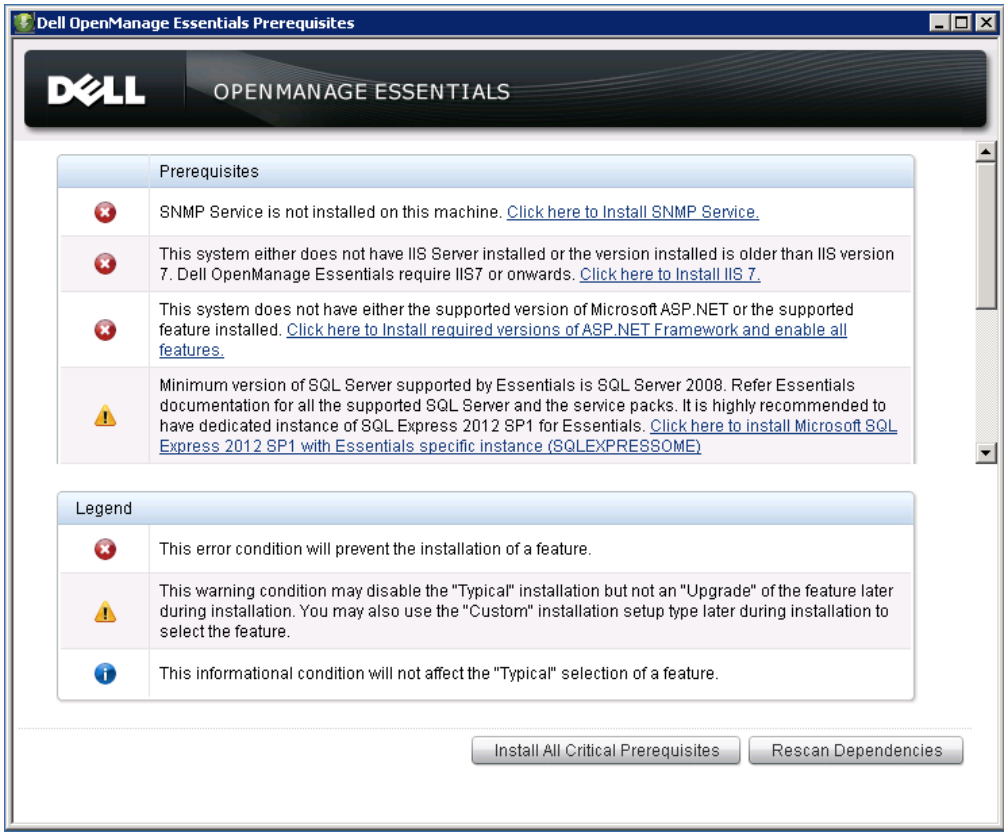


3. Select **Dell OpenManage Essentials**, and then click **Install**. This launches the Dell OpenManage Essentials Prerequisites screen.

Note:

- When you select OME, the *Dell Troubleshooting Tool* and the *Dell OME MIB Import Utility* are installed along with it.
- If you directly launch the Setup.exe in the \windows\ManagementStation\ folder, then the *Dell Troubleshooting Tool* and the *Dell OME MIB Import Utility* are not installed along with OME.

Figure 3. Dell OpenManage Essentials prerequisites.


Dell OpenManage Essentials Prerequisites
DELL
OPENMANAGE ESSENTIALS
Prerequisites
SNMP Service is not installed on this machine. Click here to Install SNMP Service.
This system either does not have IIS Server installed or the version installed is older than IIS version 7. Dell OpenManage Essentials require IIS7 or onwards. Click here to Install IIS 7.
This system does not have either the supported version of Microsoft ASP.NET or the supported feature installed. Click here to Install required versions of ASP.NET Framework and enable all features.
Minimum version of SQL Server supported by Essentials is SQL Server 2008. Refer Essentials documentation for all the supported SQL Server and the service packs. It is highly recommended to have dedicated instance of SQL Express 2012 SP1 for Essentials. Click here to install Microsoft SQL Express 2012 SP1 with Essentials specific instance (SQLEXPRESSOME)
Legend
This error condition will prevent the installation of a feature.
This warning condition may disable the "Typical" installation but not an "Upgrade" of the feature later during installation. You may also use the "Custom" installation setup type later during installation to select the feature.
This informational condition will not affect the "Typical" selection of a feature.
Install All Critical Prerequisites
Rescan Dependencies

Critical Prerequisites

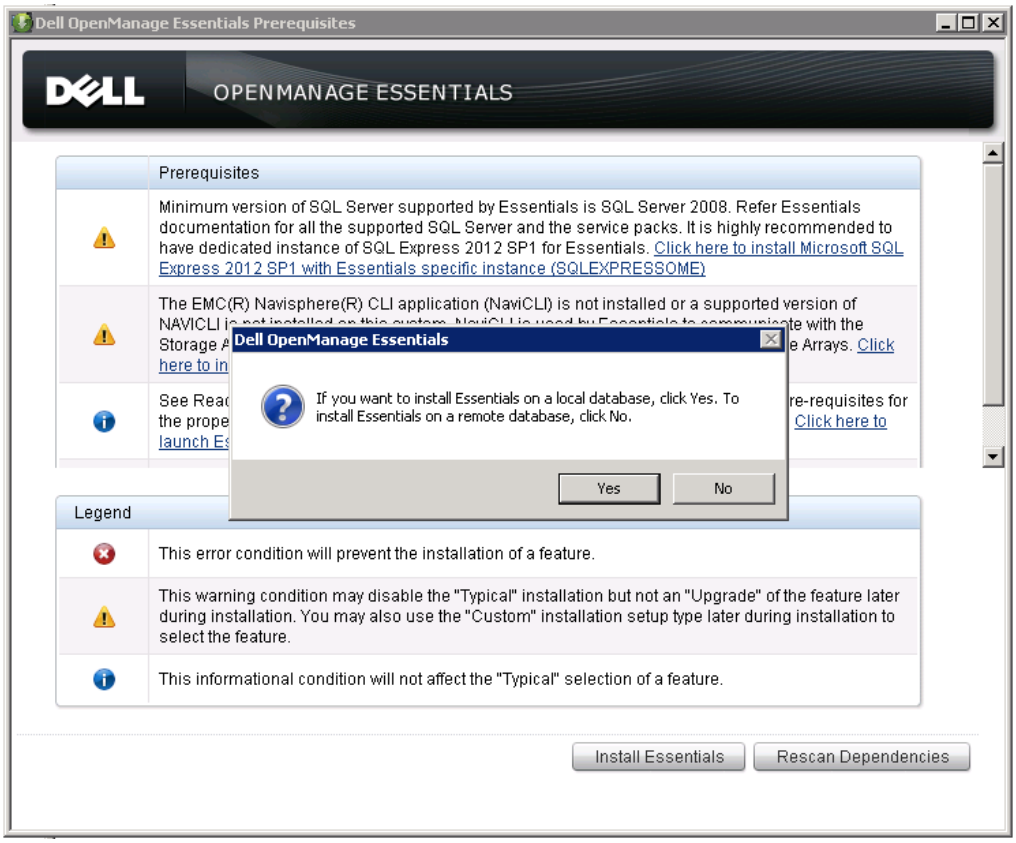
If a component that is required for OpenManage Essentials installation is missing or if the version is outdated, it displays as a critical prerequisite on the **Dell OpenManage Essentials Prerequisites** screen (Figure 3). It means you cannot install OME unless all these requirements are met on the system.

The critical prerequisites are:

- SNMP Service
- IIS 7
- Microsoft .NET 3.5 SP1
- ASP.NET 4.5
- Microsoft Silverlight 5.1
- Microsoft Visual Studio® Runtime 10.0
- IPMI Utility (BMU Tools) 4.6.0
- DRAC Tools 7.3.0
- PowerShell 2.0

Note: If the SQL server is not present on the system where OME is being installed a warning message is displayed, with a link to install SQLEXPRESS locally. If you ignore this warning message, then while launching the Essentials installation you will be asked whether you want to install on local or remote database. If you want to go with installing Essentials on a local database, then select "Yes". On doing so, SQLEXPRESS will be installed first with the SQLEXPRESSOME instance name. If you wish to install Essentials on a remote database, please select "No". On doing so, the installer will follow the Custom installation path where you have to select a remote database for installing Essentials. Please refer the following figure:

Figure 4. SQL Server Warning prerequisite


Dell OpenManage Essentials Prerequisites
OPENMANAGE ESSENTIALS
Prerequisites
Minimum version of SQL Server supported by Essentials is SQL Server 2008. Refer Essentials documentation for all the supported SQL Server and the service packs. It is highly recommended to have dedicated instance of SQL Express 2012 SP1 for Essentials. Click here to install Microsoft SQL Express 2012 SP1 with Essentials specific instance (SQLEXPRESSOME)
The EMC(R) Navisphere(R) CLI application (NaviCLI) is not installed or a supported version of
Dell OpenManage Essentials
If you want to install Essentials on a local database, click Yes. To install Essentials on a remote database, click No.
Yes
No
Legend
This error condition will prevent the installation of a feature.
This warning condition may disable the "Typical" installation but not an "Upgrade" of the feature later during installation. You may also use the "Custom" installation setup type later during installation to select the feature.
This informational condition will not affect the "Typical" selection of a feature.
Install Essentials
Rescan Dependencies

Automatically Installing All Critical Prerequisites

To automatically install all critical prerequisites, click *Install All Critical Prerequisites* button on the *Dell OpenManage Essentials Prerequisites* screen. Depending on the system configuration, a reboot may be required; however, the prerequisites installation resumes automatically after the system restarts. To avoid issues with automatically resuming installation, make sure that *User Access control* is turned off.

Note: The installation may take up to 35 minutes to complete.

SQL Server requirements include:

- **Local Database:**
  To set up OpenManage Essentials on a local database, SQL Server 2008/2008 R2/2012 ENT/STD edition or SQL Server 2008/2008 R2/2012 Express edition with SQLEXPRESSOME instance name must be installed (even though it displays only as a warning prerequisite).
- **Remote Server:**
  If you have a database located on a remote server, SQL Server is *not* required on the local system.
- **Version:**
  If the local system has SQL Server 2005 installed, it is recommended to install SQL Server 2008 or SQL Server 2012. OpenManage Essentials is not supported on SQL Server 2005.

Note: SQL Server 2012 RC/Evaluation versions are not supported.

SQL Server Instance Selection

Different instances of SQL Server will be selected by Essentials installation in different scenarios. Automatic instance selection is different when Express or Standard/Enterprise editions of SQL Server are installed on the local system. If Essentials is targeted to be configured on a remote database, you can select any instance of SQL Server 2008/2008 R2/2012 Standard/Enterprise/Express editions. Please refer the following table to know more about the instance selection logic of Essentials installer during "Typical" install:

Table 5. Local Database Instances Supported

SQL Version	SQL Edition	Instance Name	Prerequisite Status	Prerequisite Message	Required Action
None	None		Warning	No SQL found	Click to install
2005	Standard/Enterprise	Default	Warning	No supported SQL found	Click to install
		Custom Name	Warning	No supported SQL found	Click to install
2005	Express	Default	Warning	No supported SQL found	Click to install
		Custom Name	Warning	No supported SQL found	Click to install
2008/R2	Standard/Enterprise	Default/ Custom Name	None	None	None
		SQLEXPRESSOME	None	None	None
2008/R2	Express	Default/ Custom Name	Warning	No supported SQL found	Click to install
		SQLEXPRESSOME	None	None	None
2012	Standard/Enterprise	Default/ Custom Name	None	None	None
		SQLEXPRESSOME	None	None	None
2012	Express	Default/ Custom Name	Warning	No supported SQL found	Click to install
		SQLEXPRESSOME	None	None	None

Typical Installation

A Typical installation installs OME with the default settings. Select *Typical* on the Setup Type screen, and then click Install on the Ready to Install the Program screen.

In a Typical installation:

- SQL Server Authentication is selected as the default authentication method.
- The default SQL instance installed with SQL Server Standard/Enterprise edition is selected as the database server.
- The SQLEXPRESSOME instance will be selected if only Express edition of SQL Server is installed on the system. No other instance names are supported with Express editions of SQL Server (version 2008 or higher).
- If there is no default SQL instance and multiple named instances of SQL installed with the SQL Server Standard/Enterprise edition exist, the first-installed named instance will be selected as the database server.

Custom Installation

Custom installation is recommended for remote database installation, or if you want to install OME with Windows Authentication, or if you want to use a non-default location and port settings.

Figure 5. Port settings

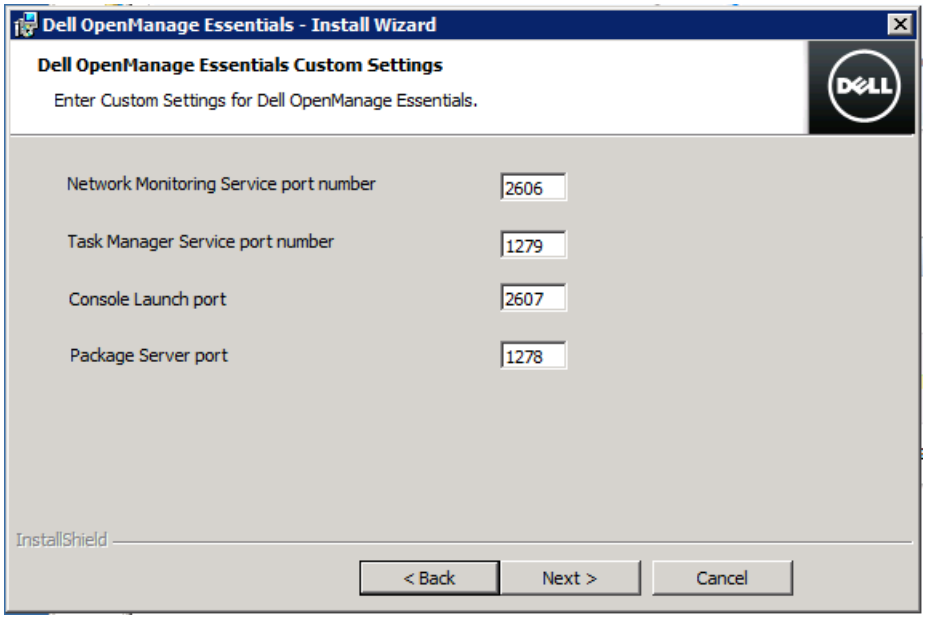
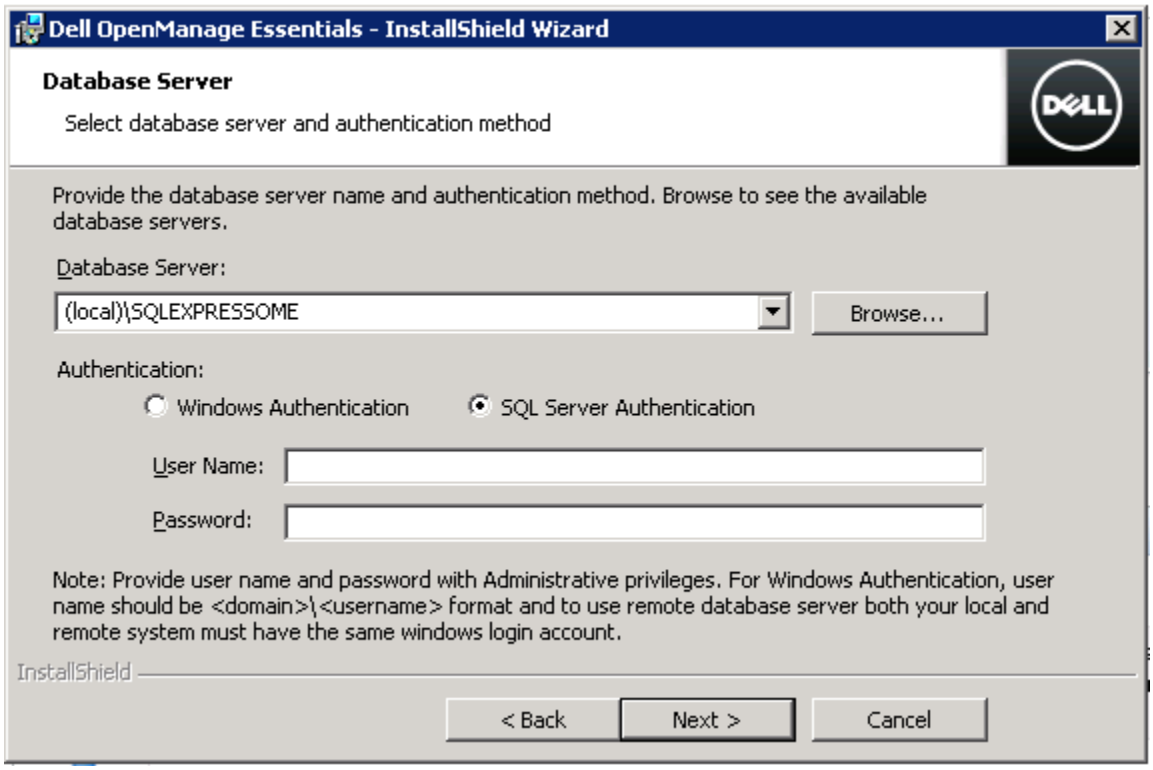


Table 6. Default port settings

Port number	Protocol	Port type	Maximum encryption level	Direction	Usage
1278	HTTP	TCP	None	In/Out	Web GUI
1279	Proprietary	TCP	None	In/Out	Scheduling tasks
2606	Proprietary	TCP	None	In/Out	Network
2607	HTTPS	TCP	128-bit SSL	In/Out	Web GUI

To set up OpenManage Essentials on a local database with multiple SQL Server instances, select the server from the **Database Server** list (Figure 6).

Figure 6. Database server window from the InstallShield Wizard.


Dell OpenManage Essentials - InstallShield Wizard
Database Server
Select database server and authentication method
Provide the database server name and authentication method. Browse to see the available database servers.
Database Server:
(local)\SQLEXPRESSOME
Browse...
Authentication:
Windows Authentication
SQL Server Authentication
User Name:
Password:
Note: Provide user name and password with Administrative privileges. For Windows Authentication, user name should be <domain>\<username> format and to use remote database server both your local and remote system must have the same windows login account.
InstallShield
< Back
Next >
Cancel

Remote Database Installation

Configure OpenManage Essentials to use a SQL server instance on a remote system. Before setting up the OpenManage Essentials database on the remote system, make sure the following prerequisites are met:

- The network communication between the OpenManage Essentials system and the remote database system is functioning.
- The SQL Server user has permission to backup, create, and configure databases.
- If you want to use SQL Authentication mode for remote database installation, then ensure "SQL Server and Windows Authentication Mode" is enabled on the remote SQL Server.
- TCP/IP is enabled on the remote system to avoid database connection issues.

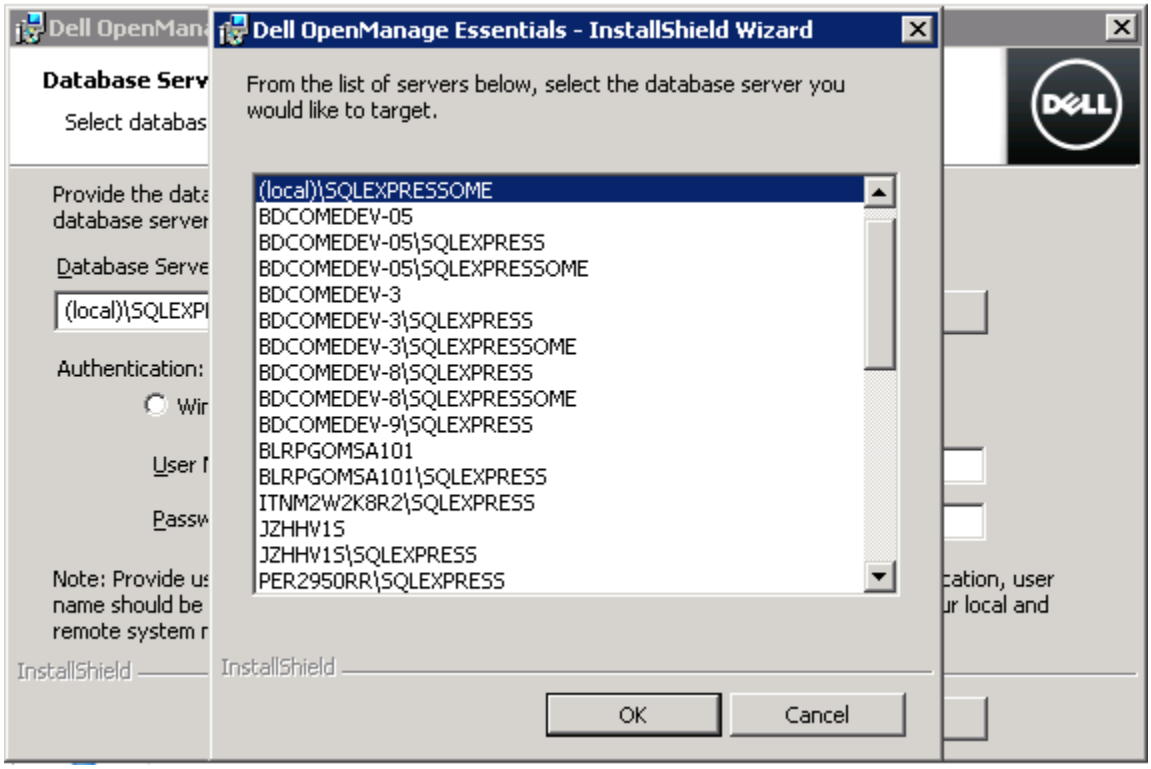
To set up the OME database on the remote system, click *Browse* on the Database Server screen and select the remote system, or enter the hostname and database instance in the Database Server field (see Figure 6).

Perform the installation with one of the following authentication methods:

- **Windows Authentication**
  Windows login credentials are used to connect to the remote SQL Server. Use this authentication method if the Windows login credentials of the remote system and OME installation system are identical.
- **SQL Server Authentication**
  Use this authentication method if the Windows login credentials of the remote database system and the OME installation system are different.

Note: After the OpenManage Essentials database is set up on the remote system, do not move the database. Otherwise, OpenManage Essentials stops working.

Figure 7. Browsing a remote database.



OpenManage Essentials Supporting Utilities

This section discusses the OpenManage Essentials supporting utility tools.

Troubleshooting Tool

A troubleshooting tool is automatically installed with OpenManage Essentials. This tool is useful for troubleshooting errors pertaining to supported device discovery and device connections.

If an older version of the Troubleshooting Tool exists on the system it gets upgraded as part of the OME installation. For more information, refer: http://en.community.dell.com/techcenter/systems-management/w/wiki/4172.dell-troubleshooting-tool.aspx

Dell OpenManage Essentials MIB Import Utility

A MIB import utility is automatically installed with OpenManage Essentials. If you have non-Dell hardware, use this tool to define new alerts to OME. This lets you monitor a wider range of hardware and setup email and forwarding rules for these devices.

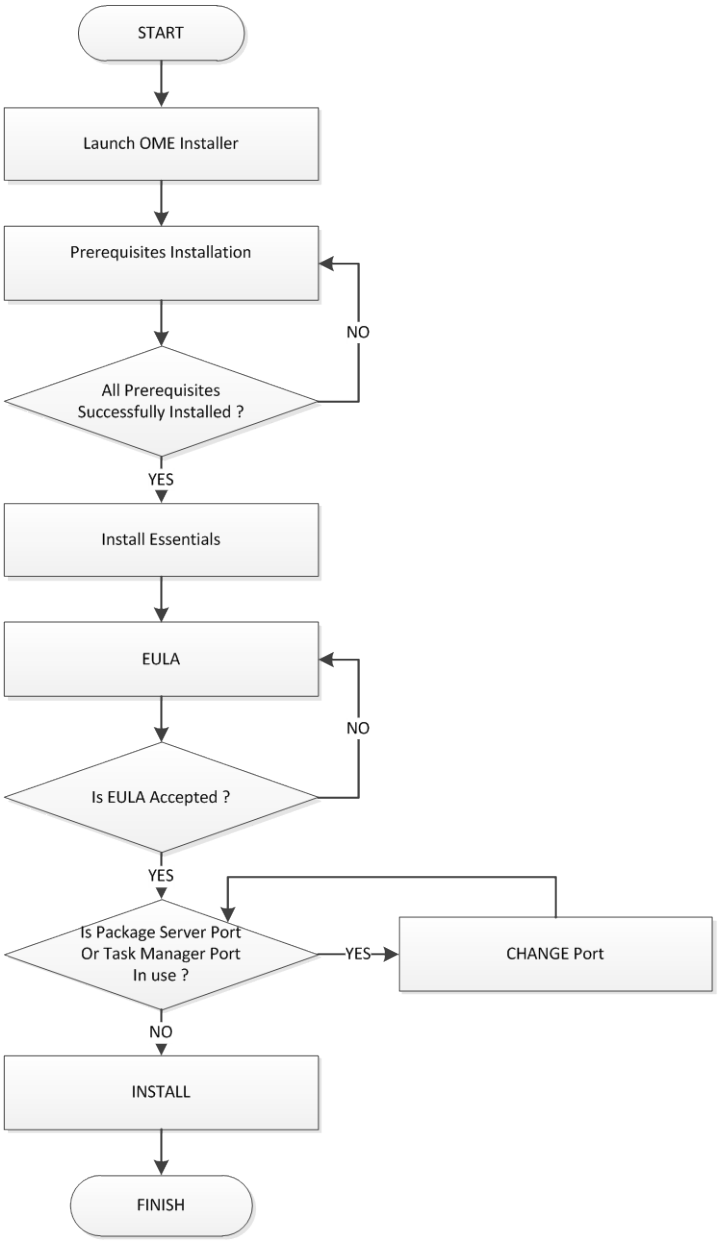
If an older version of MIB Import Utility exists on the system it gets upgraded as part of OME installation. For more information, go to:

http://en.community.dell.com/techcenter/systems-management/w/wiki/3570.openmanage-essentials-mib-import-utility.aspx

Upgrade Workflow Flowchart

The following figure displays the upgrade workflow.

Figure 8. Upgrade workflow



The OME upgrade retains the previous version data during upgrade process.

Note:

- You cannot upgrade directly from OME v1.0 (Beta Program) to OME v1.2. You must first upgrade to v1.0.1 or v1.1 and then to v1.2.
- OME 1.2 uses the new task manager port (Port: 3668) which is different from OME 1.0.1 (Port: 1279). The upgrade process handles this new port and there are no additional steps required.

During the upgrade, OME v1.2 uses the previously installed OME settings. These options (Custom Path, Ports, database server settings, and so on) are not displayed during an upgrade. The installation settings and configuration for v1.2 are visible in the *Ready to install the Program* screen.

Data Migration During Upgrade

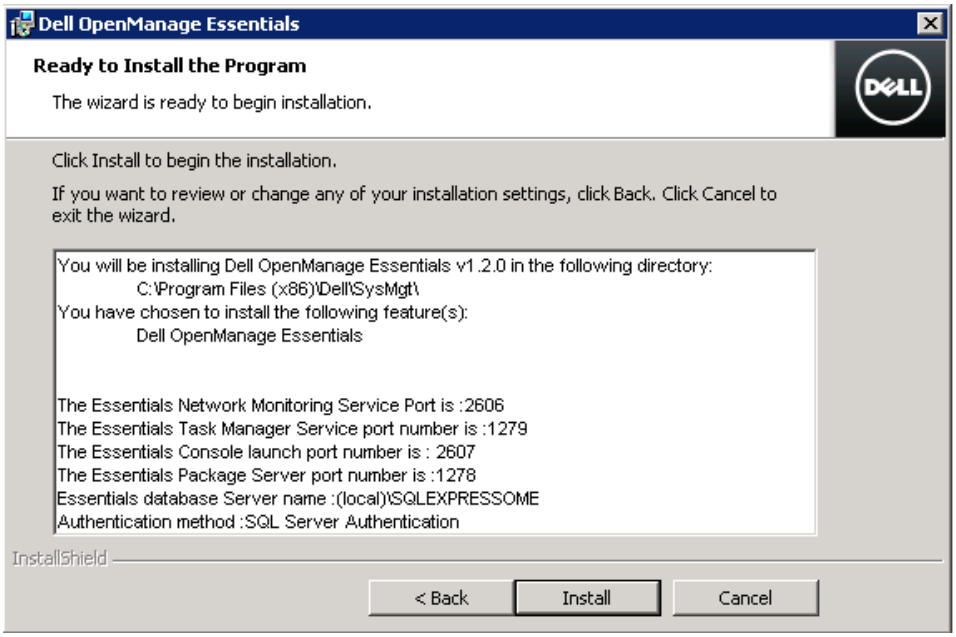
During the upgrade, Essentials database migration may happen when SQL Server instance selected by v1.2 is different from the one used by the previous version of Essentials. Database migration will never happen during upgrade if the previous version of Essentials is installed on a remote database. Please refer Table 7 for probable cases of migration during upgrade to v1.2.

Example: Assuming you have installed v1.0.1 or v1.1 on local SQL Server Express edition with instance name SQLEXPRESS, then v1.2 will target SQLEXPRESSOME instance installed with SQL Server Express edition version 2012 (installed as part of the prerequisite) for installing the database during upgrade. Data from v1.0.1 or v1.1 will be copied to new database "OMEssentials" created on SQLEXPRESSOME instance, which will be used by v1.2 hereon. The old "OMEssentials" database on SQLEXPRESS instance will be kept as it is and will not be deleted.

Table 7. Migration on Local database

SQL Version	SQL Edition	Instance used for installing v1.0.1\v1.1	Prerequisite Status	Prerequisite Message	Data Migration Required?
2005	Standard/ Enterprise	Default	Critical	No supported SQL found	Yes
		Custom Name	Critical	No supported SQL found	Yes
2005	Express	Default	Critical	No supported SQL found	Yes
		Custom Name	Critical	No supported SQL found	Yes
2008/R2	Standard/ Enterprise	Default/Custom Name	None	None	No
		SQLEXPRESSOME	None	None	No
2008/R2	Express	Default/Custom Name	Critical	No supported SQL found	Yes
		SQLEXPRESSOME	None	None	No
2012	Standard/ Enterprise	Default/Custom Name	None	None	No
		SQLEXPRESSOME	None	None	No
2012	Express	Default/Custom Name	Critical	No supported SQL found	Yes
		SQLEXPRESSOME	None	None	No

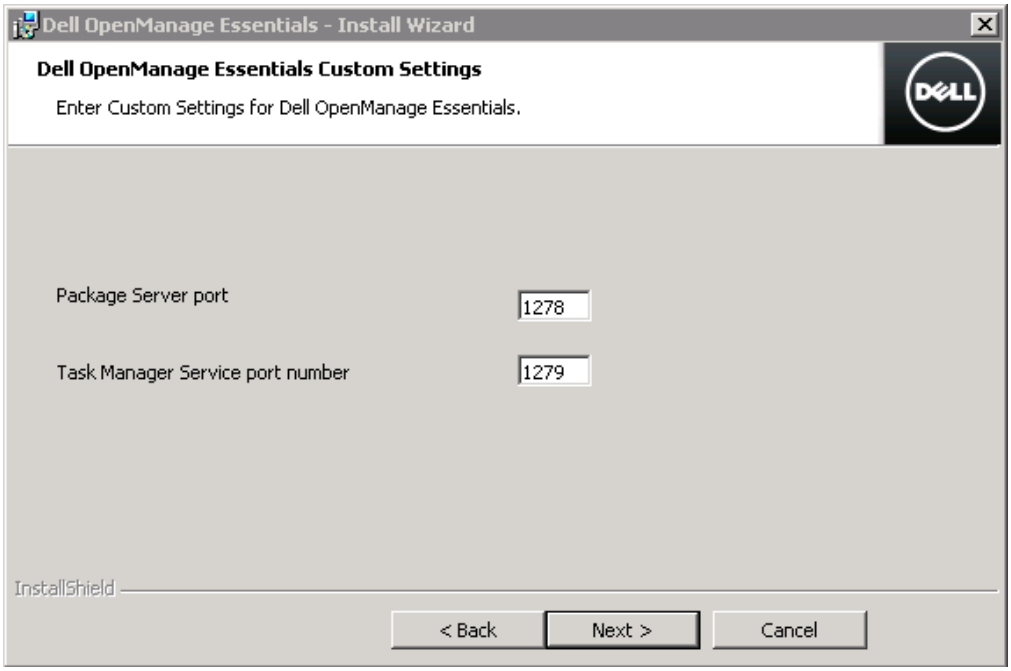
Figure 9. Ready to Install the Program screen.


Dell OpenManage Essentials
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
You will be installing Dell OpenManage Essentials v1.2.0 in the following directory:
C:\Program Files (x86)\Dell\SysMgt\
You have chosen to install the following feature(s):
Dell OpenManage Essentials
The Essentials Network Monitoring Service Port is :2606
The Essentials Task Manager Service port number is :1279
The Essentials Console launch port number is : 2607
The Essentials Package Server port number is :1278
Essentials database Server name :(local)\SQLEXPRESSOME
Authentication method :SQL Server Authentication
InstallShield
< Back
Install
Cancel

You are prompted to change the ports (Figure 10) only if:

- The default Package Server Port 1278 is already in use/blocked.
- The default Task Manager Port 1279 is already in use/blocked.

Figure 10. Custom settings (only displayed during the upgrade process).

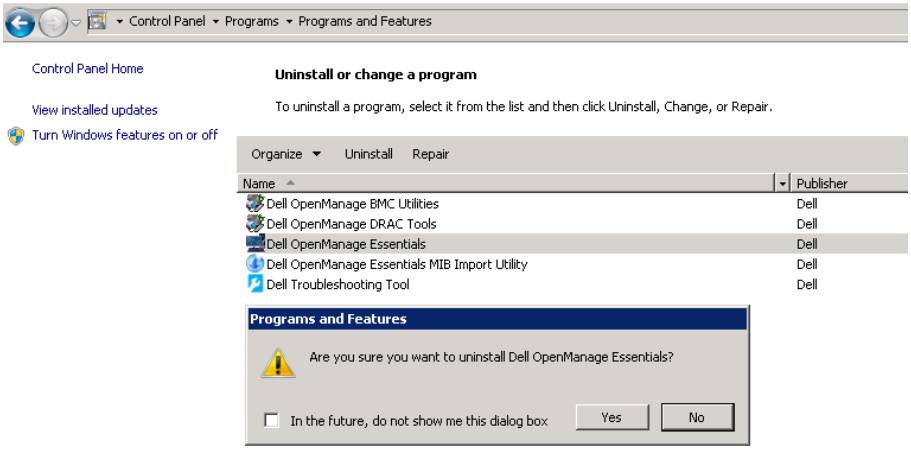


Uninstalling

Use this procedure to uninstall OpenManage Essentials:

1. Navigate to **Control Panel → Programs → Programs and Features** and select **Dell OpenManage Essentials**.
2. Click **Uninstall**.

Figure 11. Uninstalling OpenManage Essentials.

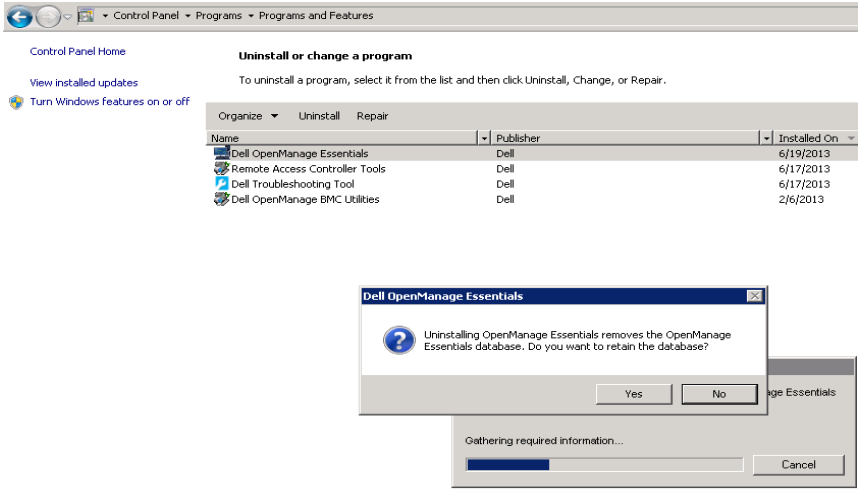


Note: As *Dell SupportAssist* and *Dell MIBImport Utility* functionality are dependent upon OME, uninstallation of OME checks their presence. You must first uninstall *Dell SupportAssist* and *Dell MIB Import Utility* to uninstall OME.

Note: Uninstalling OpenManage Essentials does not remove the Troubleshooting Tool. It needs to be uninstalled separately.

Note: OME uninstallation lets you retain the database (Figure 12). You can use the database again with the same version or after upgrading to a future version of OpenManage Essentials.

Figure 12. Retain Database Option while Uninstalling

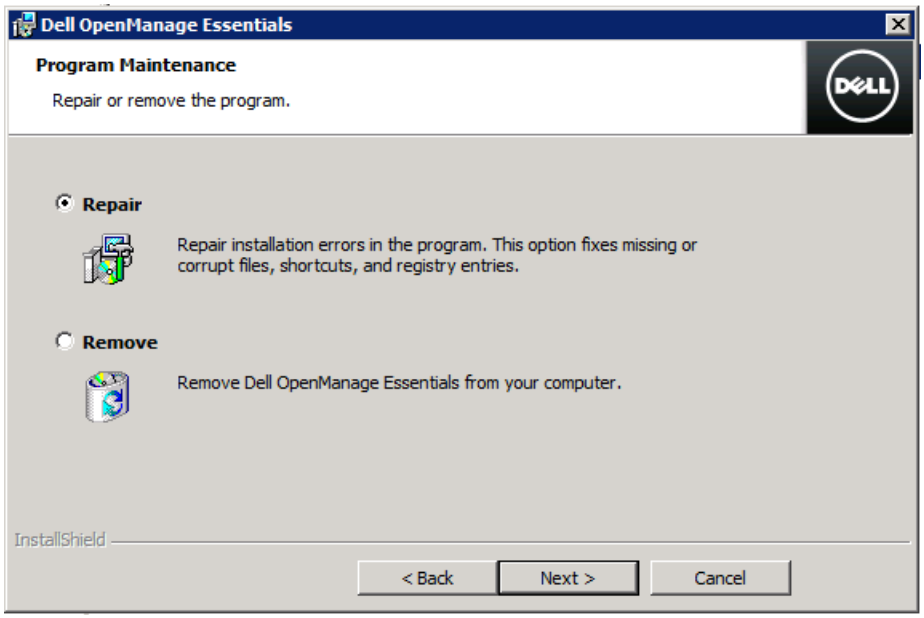


Repair (Program Maintenance)

You can repair OpenManage Essentials by going to the Program maintenance window. Do this if the installation drive or folder is corrupted or if you have accidentally deleted the OME installed files. This lets you recreate the database (fresh database) or use an existing one (if you already have the database files).

Note: If the OME database is corrupted, it is recommended that you recreate the database during repair or install a completely new OpenManage Essentials instance.

Figure 13. Program maintenance.



Learn more

To know about OpenManage Essentials, refer www.delltechcenter.com/ome

Conclusion

OpenManage Essentials is an easy-to-install, one-to-many console that simplifies systems management with features like single-click prerequisites installation. Additionally, it allows Remote Database installation.